

brightness was also increased. It will be seen, therefore, that Mr. Proctor's answer directly proves my statement that his general proposition requires qualification and is not applicable to such objects as the satellites of *Mars*; and anyone who will refer to my paper in the January No. will see that my object in bringing this point forward was simply to show that Mr. Proctor's statement required qualification before we could apply it to the case of distant stellar clusters, which was the subject of consideration in my paper. Although I have not mentioned anything about the theory of diffraction disks directly, anyone acquainted with the subject would see at once that it was the basis upon which my views rested, and the reason of my referring to telescopes of a small aperture and low magnifying power in relation to some "Statements of Mr. Proctor on Irresolvable Clusters."

2. My original paper on "A cause for the appearance of bright lines in the Spectra of Irresolvable Star Clusters" has been misunderstood, and therefore could not have been explained in sufficient detail; but on reference to my original paper in the *Proceedings of the Royal Society*, or the extract from it given in the January No. of the *Notices*, it will be seen that I state that "each star, if isolated, would be surrounded by its own gaseous envelope. These gaseous envelopes might, in the case of a cluster, form over the whole or a part of the cluster a *continuous mass* of gas"; and it is expressly stated that it is with reference to such clusters that the light of the gaseous envelope might ultimately predominate over that of the stellar masses. If the phrase "a continuous mass of gas" means anything, it means what I assert I intended it to mean in the January No., viz. that the clusters were physically close and not merely optically close, and I think that the qualifications with which Mr. Proctor admits that he does not doubt that I really meant in my original paper what I asserted that I meant in the January No. would have been better omitted.

1878, May 13.

---

*Note on Dr. W. Erck's Observations of the Outer Satellite of Mars.*  
By A. Marth, Esq.

In consequence of an unnoticed innovation in the dating of two of Dr. Erck's observations of the satellite of *Mars*, the computed angles of position given on page 365, for September 16 and 26, do not refer to the times of the observations, which were really made 24 sidereal hours earlier. When making the computations, I had not the text of Dr. Erck's communication before me, but merely an extract containing the assigned times and position angles, and therefore I took September 16, 1<sup>h</sup> 0<sup>m</sup> G.S.T. to mean, as usually, 1<sup>h</sup> 0<sup>m</sup> G.S.T. on September 16, as I was not aware of Dr. Erck's deviation from the customary reckoning of dates. It appears, however, from a reference to the text, and from a further communication made

by Dr. Erek, that in order to conform with established custom the dates should be September 15 and 25, and that, in consequence, for the lines

|                     | h | m  |        | Obs. | Comp. |
|---------------------|---|----|--------|------|-------|
| Sept. 16            | 1 | 0  | G.S.T. | 238  | 267.1 |
| 26                  | 0 | 35 |        | 255  | 322.4 |
| must be substituted |   |    |        |      |       |
|                     | h | m  |        | °    | °     |
| Sept. 15            | 1 | 0  |        | 238  | 240.2 |
| 25                  | 0 | 35 |        | 255  | 256.1 |

so that, instead of the previous discordance, there is excellent agreement between the observed and computed angles of position.

Mr. W. S. Franks, of Leicester, has presented to the Society, through the Rev. T. W. Webb, a "Catalogue of the Colours and Magnitudes of 3,890 Stars between the North Pole and 25° South Declination," from observations made by him between July 24, 1877, and May 3, 1878, with an equatorially mounted refractor of 5 inches aperture and 78 inches focal length, the object-glass being a fine one, by Wray. The eye-piece generally employed was an Aplanatic, by Horne and Thornthwaite, giving a magnifying power of 105, higher powers being occasionally used in the case of close double stars.

In regard to the work Mr. Franks says:—"My method of observing was to take one hour in R.A. as the limit of the sweeps, and commencing at 25° South Declination, examine each zone of 5° in declination at a time, gradually working up to the Pole. In doing so I endeavoured, as much as possible, to follow the natural grouping of the stars in preference to a rigid adherence to their strict sequence in Right Ascension." The independent estimates of magnitude were checked by a comparison with surrounding stars, for which Mr. Franks found a good opera-glass very useful. The works most frequently used for reference were Proctor's large and small Star Atlases, the large maps of the Useful Knowledge Society, Argelander's *Uranometria Nova*, the British Association Catalogue, and Webb's *Celestial Objects for Common Telescopes*."

The Catalogue is arranged in accordance with the method adopted in making the observations, a method perhaps not the most convenient for ready reference, but, as the stars are arranged in hours of R.A. and the name and B.A.C. number of each is given, the identification of any object is sufficiently easy. Each page contains seven columns, giving the B.A.C. number, the constellation, the B.A.C. magnitude, the observed magnitude, the colour, remarks, and the date of observation.

The work, which is the outcome of a good deal of painstaking labour on the part of Mr. Franks, will be bound and placed in the Library for convenience of reference by workers in the same field of observation.

G. K.